

COLLECTING IN TIDAL BAYS

By Robert Rosen

Last summer, for the first time, I collected native fish in a slightly different world. It's where the acid, cedar waters of the New Jersey pine barrens meet the salty, basic waters of the ocean. This "world in between" hosts many species of fish that are adaptable to wide variations in salinity, pH, and temperature. I realize that most may not have the opportunity to collect brackish and salt water species, but these fish are just as native to the United States as sunfish and pike. I therefore would like to relate my first collecting experiences in Barnegat Bay, where I now live.

Three species of killifish are very abundant here, Fundulus heteroclitus, F. diaphanus and the sheepshead minnow, Cyprinodon variegatus. The Fundulus species can live in either fresh or salt water, and their coloration depends on when and where captured. C. variegatus is a pretty, nervous little fish which is very prolific. All three are found with one introduced species, Gambusia affinis, the mosquitofish. This livebearer was introduced by the county mosquito commission for obvious reasons.

The killifish are nicely colored as are other certain brackish water fish. Examples, such as the purple naked gobies, Gobiosoma bosci, are quite adaptable to an aquarium and are quite easy to net. Three spined sticklebacks are found in quantity and have nice breeding colors. Spotfin Jawfish, Opistognathus macrognathus, are not so common, but nevertheless are worth scouting for, as their greenish spots and hopping antics add much to a community type aquarium. Other fish, such as the bullyish sticklebacks, should be kept by themselves. The Atlantic needlefish, Strongylura timucu, is a predator on the order of the pike family. The pipefish is so peaceful that it is bullied easily. The Oystercracker, a toadfish, can be mean and vicious.

Other fish I have collected include Tidewater silversides (which have a high mortality rate when introduced to an aquarium), small eels, halfbeaks, small lookdowns, white perch, small Atlantic croakers, kingfish and puffers.

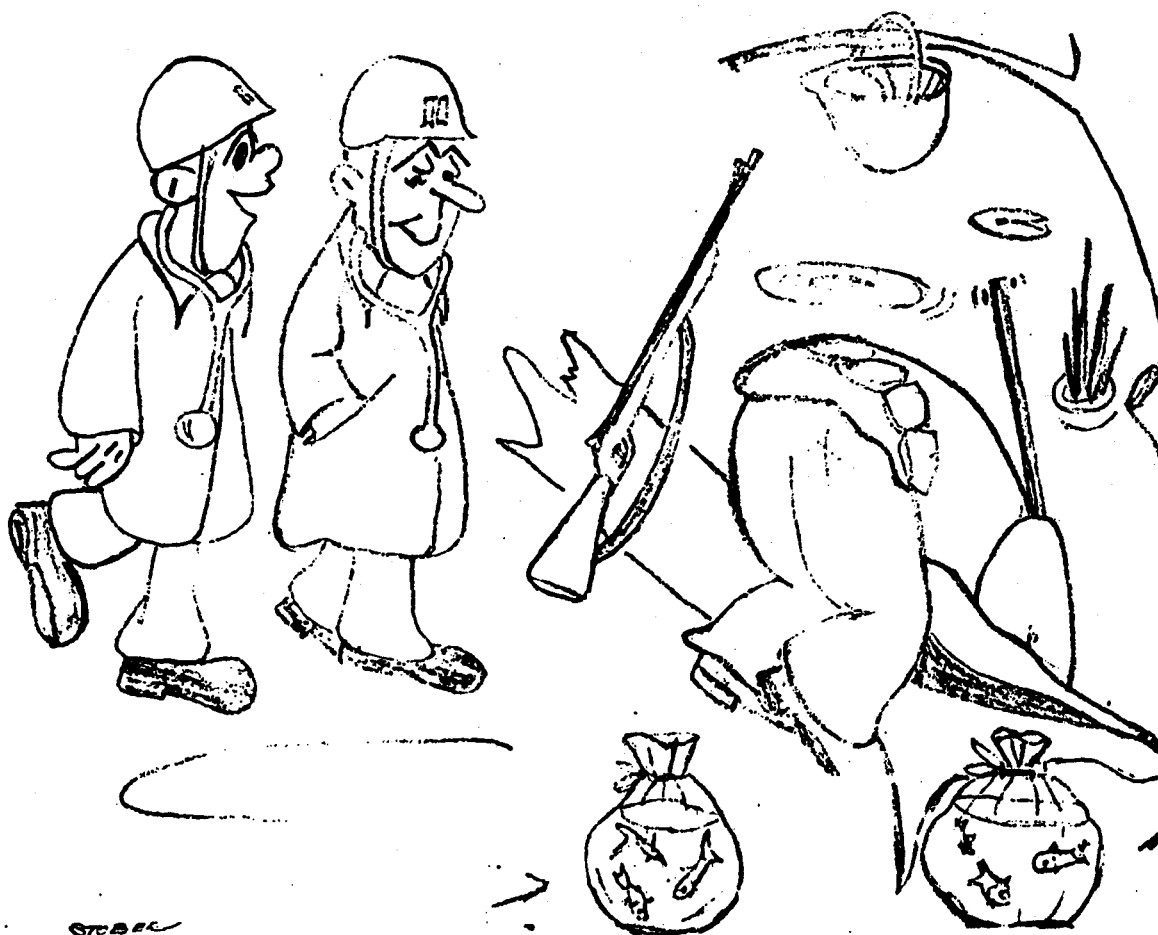
Searching the tidal bay has added a second dimension to my collecting and understanding of native fish. I'm sure that this summer will add more species to this list. The ultimate catch might be some of the butterfly fish that enter the warm waters from the nuclear power plant. For species that are collected, classification is sometimes a real problem. For example, I first thought the spotted jawfish were blennies because of their hopping along the bottom.

Most fish were initially fed on live adult brine shrimp. All, after several weeks, would eat defrosted frozen brine shrimp.

The needlefish (which prefer small fish) weren't too fond of dead food but would eat anything when hungry. The fussiest of all were the pipefish. It was very difficult to tempt them to eat dead shrimp. The *Fundulus* can easily be trained to eat flake food.

I have successfully spawned only a few of these fish. *C. variegatus* spawned the day after capture on plastic plants while the sticklebacks spawned this spring by building their typical nest stuck together with kidney secretions. *F. heteroclitus* are non-predictable and went months before laying eggs. All of the above fry were initially raised on newly hatched baby brine shrimp. *G. affinis* are like guppies in breeding habits.

Oh yes, and I also collected *Lucania parva*, four-spined sticklebacks, grass shrimp, *Fundulus majalis*. It's really difficult to remember them all.



BEEN WONDERING ABOUT GROHOSKI GETTING SHOT
IN THE SAME CURIOUS SPOT ALL THE TIME